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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,795	01/16/2004	Han Nee	7272-51	8280

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EXAMINER
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WONG, EDNA

ART UNIT	PAPER NUMBER
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1753

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/14/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/759,795

Applicant(s)

NEE, HAN

Examiner

Edna Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2006 and 01 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date March 8, 2006.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

This is in response to the Amendments dated June 22, 2006 and August 1, 2006. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

### ***Response to Amendment***

#### **Drawings**

The drawings were received on June 22, 2006. These drawings are acceptable.

#### **Double Patenting**

Claims **1-32** have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims **1-6 and 12-16** of copending Application No. **10/431,695**.

The rejection of claims 1-32 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 and 12-16 of copending Application No. 10/431,695 has been withdrawn in view of Applicant's amendment.

#### **Claim Rejections - 35 USC § 102**

I. Claims **5 and 6** have been rejected under 35 U.S.C. 102(b) as being anticipated by **JP 1-307278 ('278)**.

The rejection of claims 5 and 6 under 35 U.S.C. 102(b) as being anticipated by **JP 1-307278 ('278)** has been withdrawn in view of Applicant's amendment. Claims 5

and 6 have been cancelled.

**II.** Claims **13 and 14** have been rejected under 35 U.S.C. 102(b) as being anticipated by **JP 60-30183** ('183).

The rejection of claims 13 and 14 under 35 U.S.C. 102(b) as being anticipated by JP 60-30183 ('183) has been withdrawn in view of Applicant's amendment. Claims 13 and 14 have been cancelled.

**III.** Claims **29 and 30** have been rejected under 35 U.S.C. 102(b) as being anticipated by **JP 59-208789** ('789).

The rejection of claims 29 and 30 under 35 U.S.C. 102(b) as being anticipated by JP 59-208789 ('789) has been withdrawn in view of Applicant's amendment. Claims 29 and 30 have been cancelled.

**IV.** Claims **13-14 and 29-30** have been rejected under 35 U.S.C. 102(b) as being anticipated by **JP 2002-151720** ('720).

The rejection of claims 13-14 and 29-30 under 35 U.S.C. 102(b) as being anticipated by JP 2002-151720 ('720) has been withdrawn in view of Applicant's amendment. Claims 13-14 and 29-30 have been cancelled.

**V.** Claims **29 and 30** have been rejected under 35 U.S.C. 102(b) as being

anticipated by **Markvart et al.** (US Patent No. 4,681,983).

The rejection of claims 29 and 30 under 35 U.S.C. 102(b) as being anticipated by Markvart et al. has been withdrawn in view of Applicant's amendment. Claims 29 and 30 have been cancelled.

**VI.** Claims **29 and 30** have been rejected under 35 U.S.C. 102(b) as being anticipated by **Meier et al.** (US Patent Application Publication No. 2003/0008485).

The rejection of claims 29 and 30 under 35 U.S.C. 102(b) as being anticipated by Meier et al. has been withdrawn in view of Applicant's amendment. Claims 29 and 30 have been cancelled.

**VII.** Claims **5-6, 17-18 and 29-30** have been rejected under 35 U.S.C. 102(b) as being anticipated by **JP 1-310578** ('578).

The rejection of claims 5-6, 17-18 and 29-30 under 35 U.S.C. 102(b) as being anticipated by JP 1-310578 ('578) has been withdrawn in view of Applicant's amendment. Claims 5-6, 17-18 and 29-30 have been cancelled.

Claim Rejections - 35 USC § 103

**I.** Claims **5-8** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 1-307278** ('278) in view of **JP 9-162428** ('428).

The rejection of claims 5-8 under 35 U.S.C. 103(a) as being unpatentable over

JP 1-307278 ('278) in view of JP 9-162428 ('428) has been withdrawn in view of Applicant's amendment. Claims 5-8 have been cancelled.

II. Claims **13-16** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 60-30183** ('183) in view of **JP 9-162428** ('428).

The rejection of claims 13-16 under 35 U.S.C. 103(a) as being unpatentable over JP 60-30183 ('183) in view of JP 9-162428 ('428) has been withdrawn in view of Applicant's amendment. Claims 13-16 have been cancelled.

III. Claims **29-32** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 59-208789** ('789) in view of **JP 9-162428** ('428).

The rejection of claims 29-32 under 35 U.S.C. 103(a) as being unpatentable over JP 59-208789 ('789) in view of JP 9-162428 ('428) has been withdrawn in view of Applicant's amendment. Claims 29-32 have been cancelled.

IV. Claims **13-16 and 29-32** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 2002-151720** ('720) in view of **JP 9-162428** ('428).

The rejection of claims 13-16 and 29-32 under 35 U.S.C. 103(a) as being unpatentable over JP 2002-151720 ('720) in view of JP 9-162428 ('428) has been withdrawn in view of Applicant's amendment. Claims 13-16 and 29-32 have been cancelled.

**V.** Claims **29-32** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Markvart et al.** (US Patent No. 4,681,983) in view of **JP 9-162428** ('428).

The rejection of claims 29-32 under 35 U.S.C. 103(a) as being unpatentable over Markvart et al. in view of JP 9-162428 ('428) has been withdrawn in view of Applicant's amendment. Claims 29-32 have been cancelled.

**VI.** Claims **29-32** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Meier et al.** (US Patent Application Publication No. 2003/0008485) in view of **JP 9-162428** ('428).

The rejection of claims 29-32 under 35 U.S.C. 103(a) as being unpatentable over Meier et al. in view of JP 9-162428 ('428) has been withdrawn in view of Applicant's amendment. Claims 29-32 have been cancelled.

**VII.** Claims **1-3, 17-19, 21-23, 25-27 and 29-31** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 10-282906** ('906).

The rejection of claims 1-3, 17-19, 21-23, 25-27 and 29-31 under 35 U.S.C. 103(a) as being unpatentable over JP 10-282906 ('906) has been withdrawn in view of Applicant's amendment. Claims 1-3, 17-19, 21-23, 25-27 and 29-31 have been cancelled.

**VIII.** Claims **4, 20, 24, 28 and 32** have been rejected under 35 U.S.C. 103(a) as being

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unpatentable over **JP 10-282906** ('906) as applied to claims 1-3, 17-19, 21-23, 25-27 and 29-31 above, and further in view of **JP 9-162428** ('428).

The rejection of claims 4, 20, 24, 28 and 32 under 35 U.S.C. 103(a) as being unpatentable over JP 10-282906 ('906) as applied to claims 1-3, 17-19, 21-23, 25-27 and 29-31 above, and further in view of JP 9-162428 ('428) has been withdrawn in view of Applicant's amendment. Claims 4, 20, 24, 28 and 32 have been cancelled.

**IX.** Claims **5-8, 17-20 and 29-32** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **JP 1-310578** ('578).

The rejection of claims 5-8, 17-20 and 29-32 under 35 U.S.C. 103(a) as being unpatentable over JP 1-310578 ('578) has been withdrawn in view of Applicant's amendment. Claims 5-8, 17-20 and 29-32 have been cancelled.

**X.** Claims **21-23, 25-27 and 29-31** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Anazaki et al.** (US Patent No. 6,014,196) in view of **Li et al.** (US Patent Application Publication No. 2003/0081158), **Kozaki** (US Patent No. 5,742,367) and **Kashima et al.** (US Patent No. 4,240,021).

The rejection of claims 21-23, 25-27 and 29-31 under 35 U.S.C. 103(a) as being unpatentable over Anazaki et al. in view of Li et al., Kozaki and Kashima et al. has been withdrawn in view of Applicant's amendment. Claims 21-23, 25-27 and 29-31 have been cancelled.



**XI.** Claims **24, 28 and 32** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Anazaki et al.** (US Patent No. 6,014,196) in view of **Li et al.** (US Patent Application Publication No. 2003/0081158), **Kozaki** (US Patent No. 5,742,367) and **Kashima et al.** (US Patent No. 4,240,021) as applied to claims 21-23, 25-27 and 29-31 above, and further in view of **JP 9-162428 ('428)**.

The rejection of claims 24, 28 and 32 under 35 U.S.C. 103(a) as being unpatentable over Anazaki et al. in view of Li et al., Kozaki and Kashima et al. as applied to claims 21-23, 25-27 and 29-31 above, and further in view of JP 9-162428 ('428) has been withdrawn in view of Applicant's amendment. Claims 24, 28 and 32 have been cancelled.

***Response to Amendment***

***Terminal Disclaimer***

***Drawings***

The drawings were received on June 22, 2006. These drawings are acceptable.

***Terminal Disclaimer***

The terminal disclaimer filed on June 22, 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application No. 10/431,695 has been reviewed and is accepted. The terminal disclaimer has been recorded.

***Specification***

The disclosure is objected to because of the following informalities:

page 1, line 5, the word "priority" should be amended to the word -- benefit --.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **9 and 11** are rejected under 35 U.S.C. 102(b) as being anticipated by **EP 733,931** ('931).

EP '931 teaches a photovoltaic device for the conversion of light to electricity, comprising:

(a) a doped (= with a secondary metal oxide or oxides) semiconductor structure **12** (= a first transparent oxide thin layer) [page 4, lines 5-15] for the conversion of light to electromotive force residing in a first plane; and

(b) a silver-alloy layer **11** (= a silver-based metallic material) residing in a second plane, said silver alloy including silver and magnesium, wherein the relationship between the amounts of silver and magnesium in the silver-alloy is defined by  $Ag_xMg_p$ ,

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wherein  $0.9 < x < 0.9999$ , and  $0.0001 < p < 0.10$  (= Mg is in an amount of 0.1 to 3 atomic percent) [page 4, lines 41-52], and wherein said first plane is substantially parallel to said second plane (page 4, lines 1-4; and Fig. 1).

The silver-alloy layer is 3 to 25 nm thick (= a thickness of 2 nm or more) [page 4, lines 53-55].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

I. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 733,931 ('931) as applied to claims 9 and 11 above.

EP '931 is as applied above and incorporated herein.

The device of EP '931 differs from the instant invention because EP '931 does not disclose wherein  $0.0005 < p < 0.05$ , as recited in claim 10.

EP '931 teaches Mg in an amount of **0.1** to 3 atomic percent (page 4, lines 41-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Mg described by EP '931 with wherein  $0.0005 < p < 0.05$  because a 0.05 difference is deemed not a patentable modification.

However, such changes may impart patentability to a process if the ranges claimed produce new and unexpected results which are different in kind and not merely in degree from results of the prior art, such ranges are termed "critical" ranges and Applicant has the burden of proving such criticality; even though Applicant's modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within capabilities of one skilled in the art; more particularly, where general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimum or workable ranges by routine experimentation (MPEP § 2144.05).

II. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over **EP 733,931** ('931) as applied to claims 9 and 11 above, and further in view of **Ukita et al.** (US Patent No. 5,940,154).

EP '931 is as applied above and incorporated herein.

The device of EP '931 differs from the instant invention because EP '931 does not disclose wherein the silver-alloy layer surface is roughened, as recited in claim 12.

Like EP '931, Ukita teaches a liquid crystal device. Ukita teaches a roughened silver film which acts as a light diffusion and reflection plate 2 (col. 9, lines 1-11; and Fig. 3).

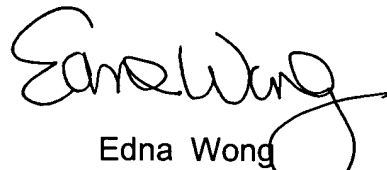
It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the silver-alloy layer surface described by EP '931

with wherein the silver-alloy layer surface is roughened because a roughened silver film would have acted as a light diffusion and reflection plate as taught by Ukita (col. 9, lines 1-11; and Fig. 3).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Edna Wong  
Primary Examiner  
Art Unit 1753

EW  
March 13, 2007